

R E M A R K S

In the present Application, claims 1 to 32 were pending. In the present non-final Office Action, with a mail date of November 27, 2006, the Examiner rejected each of the pending claims. Claims 1, 7, 8, 12, 20, and 21 were (and remain) the only independent claims.

In this response, claims 1, 2, 8, 12 to 17, and 20 to 26 have been amended, no additional claims have been added, and no new matter has been added.

1. Objection To The Drawings

The Office Action objects to the drawings. The Office Action asserts that labels or legends need to be used to identify the boxes shown in FIG. 1. Applicants interpret this to mean that all the boxes need reference numerals. If this interpretation is incorrect, Applicants respectfully request clarification. An amended FIG. 1, labeled as a replacement sheet, is submitted herewith. Accordingly, Applicants respectfully requests that the objection to the drawings be withdrawn.

2. Objection To The Title

The Office Action objects to the title of the present invention. The Office Action asserts that the title of the present invention is so broad as to not provide any description of the inventive concept to which the claims are directed. Applicants respectfully disagree, however solely to expedite prosecution, Applicants have amended the title herein. No new matter is added with this amendment.

3. Objection To The Abstract

The Office Action objects to the abstract of the present invention. The Office Action asserts that an abstract of an invention should not be a copy of the claim. The Office Action cites to MPEP 608.01(b) in support of the above assertion. The Office Action recites what appears to be a portion of section MPEP 608.01(b). (See Office Action, page 3).

Applicants disagree that section MPEP 608.01(b) requires that the Abstract should not be a copy of the claim. In relation to the use of claim language in the abstract, the MPEP 608.01(b) does appear to state that "... the form and legal phraseology often used in patent claims, such as 'means' and 'said,' should be avoided." (See MPEP 608.01(b)C). However, nowhere does MPEP 608.01(b) state that the Abstract may not be a copy of the claim. Accordingly, Applicants assert that as filed the Abstract is correct.

Nevertheless, Applicants have amended the Abstract solely for the purpose of expediting prosecution of the present Application. No new matter is added with this amendment. Support for the added language may be found on page 7, lines 4 to 22 of Applicants' specification.

4. Objections To The Claims For Improper Indention And Size

The Office Action objects to informalities in the claims of the present invention. The Office Action asserts that the claims are objected to because the lines are not properly indented and the size of the font is too large. As included here, Applicants have indented and sized the claims as originally intended. Please accept the included claim listing as a substitute for the originally filed claims. Thus,

Applicants assert that claims 1-32 as included herein overcome the Examiner's objection.

6. Objection To The Claims For The Use Of 'Adapted To'

The Examiner notes that claims 13-17 and 22-26 recite "adapted to" and asserts that "the term 'adapted to' fails to further limit the claim." The Office Action suggests amending the claims to replace "adapted to" with the term "configured to." Applicants respectfully disagree with the Examiner's assertion, however, solely to expedite prosecution, Applicants have herein amended the claims to replace "adapted to" with the term "configured to."

7. Rejection Of Claims Under 35 U.S.C. §112, First Paragraph

The Office Action rejects claims 4, 8-12, 21, and 23-26 under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, with which it is most nearly connected, to make and/or use the invention.

A. Single Means Claim Rejection Of Claim 8

The Office Action asserts that claim 8 is a single means claim. (Page 5). The Office Action recites portions of MPEP §2164.08(a) stating that a single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. §112, first paragraph.

As a preliminary matter, Applicants object to the form and apparent incompleteness of the Examiner's rejection of claim 8. Applicants note that the Office Action fails to identify any

particular term of claim 8 that is equivalent to a 'means' or what the Examiner regards as the stated result of claim 8. Thus, the Applicants are unable to ascertain what features in the claim the Examiner is asserting constitute the stated result. Clarification is respectfully requested. Applicants respectfully assert that claim 8 does not cover every conceivable means for achieving a stated result.

Applicants assert that claim 8 is not a "means claim." Applicants point out that claim 8 specifically recites "... employing the flush test mode to test and diagnose the scan chain." Applicants assert that such features are recitation of a limitation. For example, Applicants submit that it is clear that "... to test and diagnose the scan chain ..." other than by "... employing the flush test mode ..." would be outside the scope of the claim. Accordingly, for at least this reason, Applicants assert that claim 8 does not cover every conceivable means for achieving a stated result.

Moreover, claim 8 as amended herein (amended for reasons not related to the 35 U.S.C. §112 rejection) includes additional features. Among other things, amended claim 8 recites "... of one or more of a plurality of latches included in the scan chain." Accordingly, Applicants assert that as amended, claim 8 is allowable under 35 U.S.C. §112, first paragraph.

B. Enablement Requirement Rejection

The Office Action also rejects claims 4, 8-12, 21, and 23-26 under 35 U.S.C. §112 first paragraph as being based on a disclosure which is not enabling. (Page 5). More specifically, the Office Action asserts that a definition for "flush test mode" is not enabled by the disclosure. The Office Action further asserts that nowhere in the specification do the

Applicants provide a definition for "flush test mode" and further, it is unclear what "flush" means.

Contrary to the Examiner's assertion, Applicants submit that the above recited terms of claims 4, 8-12, 21, and 23-26 are disclosed such that one ordinary skill in the art is sufficiently enabled. More specifically, the term "flush test mode" is supported by the specification on at least pages 9, 11, 14, etc. "The first test mode of a conventional master/slave latch may be a flush test mode in which the same values may be propagated through each latch in a LSSD scan chain."

(Specification, page 9, lines 5 to 8) Also,

the function of the LSSD scan chain flush test mode may be altered such that an alternating set of complementing states are propagated through the LSSD scan chain. More specifically, the function of the LSSD scan chain flush test mode may be altered by altering the LSSD scan chain path input to one or more latches included in the LSSD scan chain such that the one or more latches write the scan input when the flush test mode is employed. (Specification, page 15, line 29 to page 16, line 4)

Clearly, the term "flush" is supported in several locations in the specification including pages 15 and 16. Accordingly, Applicants assert that claims 4, 8-12, 21, and 23-26 are enabled and Applicants respectfully request that the 35 U.S.C. §112, first paragraph, rejection be withdrawn.

8. Rejections Under 35 U.S.C. §103(A)

Claims 1-32 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,622,273 (Barnes) in view of U.S. Patent No. 4,945,536 (Hancu). As noted above, claims 1, 7, 8, 12, 20, and 21 are the independent claims.

Claims 1, 8, 12, 20, and 21 of the independent claims have been amended herein. Claim 7 remains as originally filed. For the reasons discussed below, Applicants assert that claims 1 to 32 are allowable over Barnes in view of Hancu and thus respectfully request withdrawal of the 35 U.S.C. §103(a) rejections.

As a preliminary matter, Applicants respectfully note that the Examiner appears to have improperly not given patentable weight to all the features recited in each of the rejected claims. For example, the feature of "... modifying a first test mode of one or more of a plurality of latches included in the scan chain..." recited in claim 1 does not appear to be discussed in the portion of the Office Action related to the rejection of claim 1. In the portion of the Office Action related to the rejection of claim 1, the Examiner appears to only have considered the features of "... modifying a plurality of latches." (See Office Action , page 6). Thus, it appears to Applicants that the Examiner has not provided complete rejections and in the absence of a complete rejection, Applicants respectfully request withdrawal of the rejections based on at least this ground.

As amended, claim 1 includes, among other things, the features of "... modifying a first test mode ... operating one or more of the plurality of latches ... wherein adjacent portions of a non-defective section of the scan chain store complementary signals." Applicants submit that at least these features do not appear to be taught or suggested in the relied upon portions of either Barnes or Hancu or any combination of the two. Applicants further submit that neither Barnes nor Hancu nor any combination of the two appears to teach or suggest these features.

Applicants submit that claim 7 includes, among other things, the feature of "... employing the first set of data and the second set of data to isolate a defect in the scan chain." Applicants submit that at least this feature does not appear to be taught or suggested in the relied upon portions of Barnes or Hancu or any combination of the two. Applicants further submit that neither Barnes nor Hancu nor any combination of the two appears to teach or suggest these features.

Claim 8 was amended for reasons not related to the 35 U.S.C. §103(a) rejection. As amended claim 8 includes, among other things, the feature of "... employing the flush test mode to test and diagnose the scan chain." Applicants submit that at least this feature does not appear to be taught or suggested in the relied upon portions of Barnes or Hancu or any combination of the two. Applicants further submit that neither Barnes nor Hancu nor any combination of the two appears to teach or suggest these features.

As amended claim 12 includes, among other things, features of a "... test IC adapted to modify a first test mode ... and operate one or more latches wherein adjacent portions of a non-defective section of the scan chain store complementary signals." Applicants submit that at least these features do not appear to be taught or suggested in the relied upon portions of Barnes or Hancu or any combination of the two. Applicants further submit that neither Barnes nor Hancu nor any combination of the two appears to teach or suggest these features.

Claim 20 includes, among other things, features of an IC "... configured to ... employ the first set of data and the second set of data to isolate a defect in the scan chain." Applicants submit that at least these features do not appear to be taught or suggested in at least the relied upon portions of

Barnes or Hancu or any combination of the two. Applicants further submit that neither Barnes nor Hancu nor any combination of the two appears to teach or suggest these features.

Claim 21 includes, among other things, features of an IC "... configured to ... employ the flush test mode to test and diagnose the scan chain." Applicants submit that at least these features do not appear to be taught or suggested in at least the relied upon portions of Barnes or Hancu or any combination of the two. Applicants further submit that neither Barnes nor Hancu appears to teach or suggest these features.

Accordingly, Applicants submit that not all of the features of each independent claims 1, 7, 8, 12, 20, and 21 are found in either Barnes or Hancu or any combination of the two. Accordingly, Applicants submit that, solely on this basis, a *prima facie* case of obviousness has not been established based on Barnes in combination with Hancu for the above independent claims.

Moreover, Applicants assert that one of ordinary skill in the art would not have been motivated to combine Barnes with Hancu. The Examiner is respectfully reminded that in the context of *prima facie* obviousness, "[t]he tendency to resort to 'hindsight' based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art." MPEP 2142. Applicants submit that there appears to be nothing in either reference to suggest or motivate one of ordinary skill in the art to combine Barnes with Hancu to arrive at the present invention as recited in the independent claims presented herein. For example, Applicants submit that one of ordinary skill in the art would not have been motivated

to combine the references to arrive at the invention of "... modifying a first test mode of one or more of a plurality of latches included in the scan chain ... operating one or more of the plurality of latches included in the scan chain in a second test mode wherein adjacent portions of a non-defective section of the scan chain store complementary signals." (See claim 1). Applicants further submit that there appears to be nothing in either Barnes or Hancu, or in the knowledge of the art to which this invention pertains, to modify each respective reference to arrive at the present invention as recited in the independent claims presented herein.

For the above reasons, Applicants assert that the invention recited in independent claims 1, 7, 12, 20, and 21 presented herein (in their respective amended or original forms) are not obvious over Barnes or Hancu, alone or in combination. Thus, Applicants assert that independent claims 1, 7, 8, 12, 20, and 21 presented herein are allowable under 35 U.S.C. §103(a). Since the remaining claims properly depend from the asserted allowable independent claims, Applicants assert that claims 1-32 presented herein are allowable under 35 U.S.C. §103(a).

9. Conclusion

Applicants believe the claims are now in condition for allowance, and respectfully request reconsideration and allowance of the same.

A separate Request for Extension of Time is enclosed herewith, with authorization to charge the requisite extension fee to deposit account no. 04-1696. Please charge Deposit Account No. 04-1696 for any other fees required by this

Amendment. The Applicants encourage the Examiner to telephone Applicants' attorney should any questions remain.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Steven M. Santisi". The signature is fluid and cursive, with the first name "Steven" and last name "Santisi" being more legible than the middle initial "M.".

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Dated: May 29, 2007
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